

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Yoon C. Cheong
Serial No. 10/075,436
Filed: 02/14/2002
For: **ADAPTIVE STATE TRANSITION CONTROL**

Examiner: Wong, Blanche
Art Unit: 2616

Mail Stop Appeal Brief – Patents
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

An **APPEAL BRIEF** is filed herewith. Appellant also encloses a payment in the amount of \$620.00 for this appeal brief as required by 37 C.F.R. § 1.17(c) and for a One-month Extension of Time and requests that this be considered a petition therefor. If any additional fees are required in association with this appeal brief, the Director is hereby authorized to charge them to Deposit Account 50-1732, and consider this a petition therefor.

APPEAL BRIEF

(1) REAL PARTY IN INTEREST

The real party in interest is the assignee of record, i.e., Nortel Networks Limited of 2351 Boulevard Alfred-Nobel, St. Laurent, Quebec Canada H4S 2A9, which is wholly owned by Nortel Networks Corporation, a Canadian corporation.

(2) RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences to the best of Appellant's knowledge.

(3) STATUS OF CLAIMS

Claims 1-3, 5-13, 17-19, and 21-29 were rejected for the second time with the rejection made final on August 10, 2006.

Claims 14-16 were allowed in the Final Office Action mailed August 10, 2006.

Claims 4 and 20 were objected to as being dependent upon a rejected base claim in the Final Office Action mailed August 10, 2006, but the Patent Office indicated that claims 4 and 20

would be allowable if rewritten in independent form including all of the limitations of the base claims.

Claims 1-29 are pending.

Claims 1-13 and 17-29 are the subject of this appeal.

(4) STATUS OF AMENDMENTS

All amendments have been entered to the best of Appellant's knowledge.

No amendments have been made after the Final Office Action mailed August 10, 2006.

(5) SUMMARY OF CLAIMED SUBJECT MATTER

The present invention provides an access point, such as a base station, facilitating wireless communications with a plurality of mobile terminals, which are capable of operating in an active or standby mode. The access point provides active-to-standby transition timers for controlling when to instruct active mobile terminals to enter a standby mode after the end of a communication session. The active-to-standby transition timers have variable values based on one or more Quality of Service (QoS) parameters. Different mobile terminals may be associated with different QoS levels. The values for the active-to-standby transition timers may vary based on their respective QoS levels. The initial values for the active-to-standby transition timers may differ depending on the QoS level for the associated mobile terminal. As the QoS parameters indicate conditions adversely affecting QoS, the active-to-standby timer values may decrease in proportion to the QoS parameters (Specification, paragraph 0010).

Further, the values for the active-to-standby timers associated with the different QoS levels may be decreased at different rates. Preferably, the values for active-to-standby transition timers associated with higher QoS levels are decreased at rates less than those associated with lower QoS levels. When conditions that adversely affect QoS persist, the access point can block mobile terminals operating in a standby mode from transitioning to an active mode as well as transition active mobile terminals to which there are no data to communicate to a standby mode (Specification, paragraph 0011).

Claim 1 recites a method for controlling active-to-standby transitions for mobile terminals (such as mobile terminals 12, Figure 2) in a wireless communication environment (see Figure 2), the method comprising:

- a) monitoring at least one Quality of Service (QoS) parameter bearing on QoS (Specification, paragraphs 0010, 0011, and 0030-0036);
- b) determining a first value for an active-to-standby transition timer for a first mobile terminal based on the at least one QoS parameter (Specification, paragraphs 0010, 0028, 0030, 0031, 0033, and 0036; see also Figure 3);
- c) setting the active-to-standby transition timer for the first mobile terminal with the first value at the end of a data communication session with the first mobile terminal (Specification, paragraphs 0010, 0028, 0033, and 0036; see also Figure 3); and
- d) instructing the first mobile terminal to transition from an active mode to a standby mode if another communication session is not necessary prior to expiration of the active-to-standby transition timer for the first mobile terminal, the first value for the active-to-standby transition timer for the first mobile terminal being variable based on the at least one QoS parameter (Specification, paragraphs 0010 and 0028-0036; see also Figures 3 and 4B).

Claim 17 recites an access point (such as base station 10, Figure 2) comprising:

- a) a wireless communication interface (such as network interface 22, Figure 2) adapted to facilitate wireless communications with mobile terminals (such as mobile terminals 12, Figure 2); and
- b) a control system (such as control system 16, Figure 2) associated with the wireless communication interface and adapted to:
 - i) monitor at least one Quality of Service (QoS) parameter bearing on QoS (Specification, paragraphs 0010, 0011, and 0030-0036);
 - ii) determine a first value for an active-to-standby transition timer for a first mobile terminal based on the at least one QoS parameter (Specification, paragraphs 0010, 0028, 0030, 0031, 0033, and 0036; see also Figure 3);
 - iii) set the active-to-standby transition timer for the first mobile terminal with the first value at the end of a data communication session with the first mobile terminal (Specification, paragraphs 0010, 0028, 0033, and 0036; see also Figure 3); and
 - iv) instruct the first mobile terminal to transition from an active mode to a standby mode if another communication session is not necessary prior to expiration of the active-to-standby transition timer for the first mobile terminal, the first value for the active-to-standby transition timer for the first mobile terminal being variable based on the

at least one QoS parameter (Specification, paragraphs 0010 and 0028-0036; see also Figures 3 and 4B).

Claims 7 and 23 are argued to be patentable for separate reasons. Claim 7, for example, depends from claim 6, which in turn depends from claim 5, which depends from independent claim 1. Claim 23 depends from claim 22, which depends from claims 21, which depends from independent claim 17. Claims 5 and 21 recite that there is a second mobile terminal which has a second value for its active-to-standby transition timer based on the at least one QoS parameter, with the second value being variable based on the QoS parameter (Specification, paragraphs 0010 and 0028-0036; see also Figures 2, 3, and 4B). Claims 6 and 22 recite that the first and second values decrease as the at least one QoS parameter changes in a manner adversely affecting QoS (Specification, paragraphs 0010, 0011, and 0031-0036; see also Figures 3 and 4B). Claims 7 and 23 add the further limitation of “wherein the first value decreases at a lower rate than the second value as the at least one QoS parameter changes in a manner adversely affecting QoS.” (Specification, paragraphs 0011, 0032, 0033, and 0036; see also Figure 4B).

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

- A.** Whether claims 1-6, 12, 13, 17-22, 28, and 29 were properly rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application Publication No. 2001/0031634 A1 to Mizutani et al. (hereinafter “Mizutani”).
- B.** Whether claims 7-9 and 23-25 were properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Mizutani.
- C.** Whether claims 10, 11, 26, and 27 were properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Mizutani in view of U.S. Patent No. 7,010,305 B2 to Immonen et al. (hereinafter “Immonen”).

(7) ARGUMENT

A. Introduction

Claims 1-6, 12, 13, 17-22, 28, and 29 were rejected under 35 U.S.C. § 102(e) as being anticipated by Mizutani. For a reference to be anticipatory, the reference must disclose each and every claim element. The requirement that each and every element be disclosed in the manner claimed is a rigorous standard that the Patent Office has not met in this case.

Mizutani fails to teach at least two elements of independent claims 1 and 17. First, Mizutani fails to disclose “monitoring at least one Quality of Service (QoS) parameter bearing on QoS.” The Patent Office opines that this step is taught by the QoS key disclosed in paragraph 0047 of Mizutani. The QoS key of Mizutani is a physical key that can be pressed by a user to request communication quality assurance (Mizutani, paragraph 0038). Appellant respectfully submits that a user pressing a physical QoS key is not the same as the claimed monitoring of a QoS parameter bearing on QoS. The Patent Office alleges that the system of Mizutani monitors the state of the QoS key and the state of the QoS key is “a QoS parameter bearing on QoS” because it bears the user’s QoS of choice (Final Office Action mailed August 10, 2006, p. 2). Appellant respectfully disagrees. It is unreasonable to equate whether or not a key has been pressed to “monitoring” the state of the key. Detecting whether a key is pressed is not equivalent to “monitoring.” In particular, pressing a key is not equivalent to monitoring at least one QoS parameter, as required by the claims. Moreover, the Patent Office’s assertion that the state of the QoS key in Mizutani is “a QoS parameter bearing on QoS” because it bears the user’s QoS of choice is not supported by a reading of Mizutani. The QoS key only requests communication quality assurance; it is simply a function of whether QoS is requested (Mizutani, paragraph 0038). The QoS key does nothing to monitor whether the QoS is being met, or whether the QoS is being compromised due to the number of active mobile terminals, the communication load, or other factors. Thus, Mizutani, with its QoS key, does not teach or suggest “monitoring at least one Quality of Service (QoS) parameter bearing on QoS.”

Second, Mizutani fails to teach “instructing the first mobile terminal to transition from an active mode to a standby mode if another communication session is not necessary prior to expiration of the active-to-standby transition timer for the first mobile terminal, the first value for the active-to-standby transition timer for the first mobile terminal being variable based on the at least one QoS parameter” (emphasis added). In particular, Mizutani does not teach the first value being variable based on the at least one QoS parameter. In Mizutani, a mobile station has a QoS key. When the QoS key is turned on, the mobile station transmits a PPP keep alive packet at regular intervals in order to prevent the BSC 105 from releasing the radio channel from the mobile station. The mobile station sets the PPP keep alive timer 902 to a value smaller than the value set on the wireless channel state timer 901A (Mizutani, paragraph 0046, emphasis added). Notably, all of the values of the timers in Mizutani are not variable, and are certainly not

variable based on the at least one QoS parameter. Therefore, since Mizutani does not teach each and every limitation of the claim, Mizutani does not anticipate claims 1 and 17, or the claims that depend from claims 1 and 17.

With respect to claim 7-9 and 23-25, these claims are further patentable because Mizutani does not teach or suggest the limitation of “wherein the first value decreases at a lower rate than the second value as the at least one QoS parameter changes in a manner adversely affecting QoS,” as required in claims 7 and 23. The Patent Office attempts to argue that it would be obvious to modify Mizutani to add the missing limitation, but the Patent Office provides no actual evidence to support the stated motivation to modify Mizutani. Instead, the Patent Office uses circular logic, asserting that it would be obvious to include two values that decrease at different rates in order to get two different values decreasing at two different rates. In other words, the Patent Office is saying that it would be obvious to include the missing limitation in order to provide the missing limitation. The Patent Office’s attempts to modify Mizutani without evidence of a suggestion, teaching, or motivation for the proposed modification simply takes Appellant’s disclosure as a blueprint to defeat patentability, which is the essence of impermissible hindsight. *In re Dembicza*k, 175 F.3d 994, 999 (Fed. Cir. 1999). Thus, the asserted motivation to modify Mizutani is improper, making the obviousness rejection of claims 7-9 and 23-25 improper.

For the above reasons, Appellant requests that the Board reverse the Examiner and instruct the Examiner to allow claims 1-13 and 17-29.

B. Summary of the References

1. U.S. Patent Application Publication No. 2001/0031634 A1 to Mizutani

Mizutani is directed to a mobile communication system in which a mobile station which has requested communication quality assurance periodically sends a packet for requesting preferential use of a radio channel in order to prevent timeout of the state transition timer so that the mobile station can remain in the active state and hold the radio channel continuously (Mizutani, Abstract). Mizutani discloses that the mobile station has a QoS key, which is a physical key that can be pressed by a user to request communication quality assurance (Mizutani, paragraph 0038). When the QoS key is turned on, the mobile station transmits a PPP keep alive packet at regular intervals in order to prevent the BSC 105 from releasing the radio channel from

the mobile station. The mobile station sets the PPP keep alive timer 902 to a value smaller than the value set on the wireless channel state timer 901A (Mizutani, paragraph 0046). Because the PPP keep alive timer 902 is set to a value smaller than the wireless channel state timer 901A, the PPP keep alive timer 902 times out before the timeout of the state transition timer 901B which would cause release of the radio channel from the mobile station and the change of the state of the mobile station from active to dormant (Mizutani, paragraph 0047).

2. U.S. Patent No. 7,010,305 B2 to Immonen

Immonen relates to a method for assigning values of service attributes to transmissions between user equipment and a radio access network (Immonen, Abstract). The values of service attributes that are to be used for a requested transmission are determined based on at least one value of at least one service attribute defined by a stored subscriber specific service profile and on at least one stored common value of at least one service attribute. *Ibid.* The user equipment 11 can request a transmission in any of the four available transmission classes, the conversational, the streaming, the interactive, or the background traffic class. Moreover, as mentioned above, the user equipment 11 can, but does not have to, request a desired QoS profile for the requested transmission. After a transmission request has been received by the SGSN 12, it is first determined in the SGSN 12 whether the request by the user equipment 11 contains a request for a specific QoS profile (Immonen, col. 9, lines 14-23).

C. Legal Standards

1. For Establishing Anticipation

Section 102 of the Patent Act provides the statutory basis for an anticipation rejection and states *inter alia*:

A person shall be entitled to a patent unless

(e) the invention was described in - (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent,

The Federal Circuit's test for anticipation has been set forth numerous times. "It is axiomatic that for prior art to anticipate under 102 it has to meet every element of the claimed

invention.” *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1379 (Fed. Cir. 1986). This standard has been reinforced. “To anticipate a claim, a reference must disclose every element of the challenged claim and enable one skilled in the art to make the anticipating subject matter.” *PPG Indus. Inc. v. Guardian Indus. Corp.*, 75 F.3d 1558, 1577 (Fed. Cir. 1996) (citations omitted). Further, “a finding of anticipation requires that the publication describe all of the elements of the claims, arranged as in the patented device.” *C.R. Bard Inc. v. M3 Sys. Inc.*, 157 F.3d 1340, 1349 (Fed. Cir. 1998) (emphasis added and citations omitted).

2. For Establishing Obviousness

Section 103(a) of the Patent Act provides the statutory basis for an obviousness rejection and reads as follows:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Courts have interpreted 35 U.S.C. § 103(a) as being a question of law based on underlying facts. As the Federal Circuit stated:

Obviousness is ultimately a determination of law based on underlying determinations of fact. These underlying factual determinations include: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art; and (4) the extent of any proffered objective indicia of nonobviousness.

Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH, 139 F.3d 877, 881 (Fed. Cir. 1998) (internal citations omitted).

The burden is on the Patent Office to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988). “To reach a proper conclusion under § 103, the decisionmaker must step backward in time and into the shoes worn by [a person having ordinary skill in the art] when the invention was unknown and just before it was made.” *Id.* at 1073 (quoting *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1566 (Fed. Cir. 1987) (paraphrase in *Fine*’s original text)). “One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.” *In re Fine* at 1075. The

Patent Office may not ignore portions of the reference which teach away from the combination. *Baxter Int'l Inc. v. McGaw Inc.*, 149 F.3d 1321, 1328 (Fed. Cir. 1998). “[I]n general, a reference will teach away if it suggests that the line of development flowing from the reference’s disclosure is unlikely to be productive of the result sought by the applicant.” *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994).

The “case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.” *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999). “Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor’s disclosure as a blueprint for piecing together the prior art to defeat patentability - the essence of hindsight.” *Ibid.*

The Federal Circuit notes

that evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved . . . **The range of sources available, however, does not diminish the requirement for actual evidence.** That is, the showing must be clear and particular. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not “evidence.”

Ibid (emphasis added and internal citations omitted).

For a *prima facie* case of obviousness, the combination must teach or fairly suggest all the claim elements. *In re Royka*, 490 F.2d 981 (CCPA 1974); MPEP § 2143.03. If the Patent Office must modify a single reference to include a missing claim element, the Patent Office must provide a motivation to modify the reference. Furthermore, the Patent Office must support any such motivation with actual evidence. *In re Kotzab*, 217 F.3d 1365, 1370 (Fed. Cir. 2000). If the Patent Office fails to establish obviousness, then the Appellant is entitled to a patent. *In re Glaug*, 283 F.3d 1335, 1338 (Fed. Cir. 2002).

D. Claims 1-6, 12, 13, 17-22, 28, and 29 Are Not Anticipated by Mizutani

Claims 1-6, 12, 13, 17-22, 28, and 29 were rejected under 35 U.S.C. § 102(e) as being clearly anticipated by Mizutani. For a reference to be anticipatory, the reference must disclose each and every claim element. Further, the elements of the reference must be arranged as

claimed. MPEP § 2131. The requirement that each and every element be disclosed in the manner claimed is a rigorous standard that the Patent Office has not met in this case.

1. Mizutani Does Not Teach “Monitoring at Least One Quality of Service (QoS) Parameter Bearing on QoS”

Claims 1 and 17 recite “monitoring at least one Quality of Service (QoS) parameter bearing on QoS.” Mizutani discloses a QoS key, which is a physical key that can be pressed by a user to request communication quality assurance (Mizutani, paragraph 0038). Appellant respectfully submits that a user pressing a physical QoS key is not the same as the claimed monitoring of a QoS parameter bearing on QoS. Quite simply, pressing a key to request communication quality assurance is not equivalent to monitoring a QoS parameter. Therefore, Mizutani does not teach “monitoring at least one Quality of Service (QoS) parameter bearing on QoS,” and thus cannot anticipate claims 1 and 17.

The Patent Office alleges that the system of Mizutani monitors the state of the QoS key and the state of the QoS key is “a QoS parameter bearing on QoS” because it bears the user’s QoS of choice (Final Office Action mailed August 10, 2006, pp. 2-3). The QoS key of Mizutani is a physical key that can be pressed by a user to request communication quality assurance (Mizutani, paragraph 0038). Appellant respectfully submits that a user pressing a physical QoS key is not the same as the claimed monitoring of a QoS parameter bearing on QoS. It is unreasonable to equate whether or not a key has been pressed to “monitoring” the state of the key. Detecting whether a key is pressed is not equivalent to “monitoring.” In particular, pressing a key is not equivalent to monitoring at least one QoS parameter, as required by the claims. Thus, Mizutani does not anticipate claims 1 and 17.

In addition, the Patent Office’s assertion that the state of the QoS key in Mizutani is “a QoS parameter bearing on QoS” because it bears the user’s QoS of choice is not supported by a reading of Mizutani. The QoS key only requests communication quality assurance; it is simply a function of whether QoS is requested (Mizutani, paragraph 0038). The QoS key does nothing to monitor whether the QoS is being met, or whether the QoS is being compromised due to the number of active mobile terminals, the communication load, or other factors. Mizutani’s QoS key is not a QoS parameter bearing on QoS, as claimed in the present invention. Thus, Mizutani, with its QoS key, does not teach or suggest “monitoring at least one Quality of Service (QoS)

parameter bearing on QoS,” as required by claims 1 and 17. Therefore, claims 1 and 17 are not anticipated by Mizutani.

2. Mizutani Does Not Teach “Instructing the First Mobile Terminal to Transition From an Active Mode to a Standby Mode if Another Communication Session is Not Necessary Prior to Expiration of the Active-to-Standby Transition Timer for the First Mobile Terminal, the First Value for the Active-to-Standby Transition Timer for the First Mobile Terminal Being Variable Based on the at Least One QoS Parameter”

The present invention contemplates that the values for the active-to-standby transition timers may vary based on their respective QoS levels. The initial values for the active-to-standby transition timers may differ depending on the QoS level for the associated mobile terminal. As the QoS parameters indicate conditions adversely affecting QoS, the active-to-standby timer values may decrease in proportion to the QoS parameters (Specification, paragraph 0010). Thus, in the present invention, the better the QoS is, the longer it takes for the mobile terminal to transition to standby status. Further, the values for the active-to-standby timers associated with the different QoS levels may be decreased at different rates. Preferably, the values for active-to-standby transition timers associated with higher QoS levels are decreased at rates less than those associated with lower QoS levels (Specification, paragraph 0011).

Claims 1 and 17 recite “instructing the first mobile terminal to transition from an active mode to a standby mode if another communication session is not necessary prior to expiration of the active-to-standby transition timer for the first mobile terminal, the first value for the active-to-standby transition timer for the first mobile terminal being variable based on the at least one QoS parameter” (emphasis added). Mizutani does not teach this limitation, especially the first value for the active-to-standby transition timer for the first mobile terminal being variable based on the at least one QoS parameter. In Mizutani, a mobile station has a number of keys, including a QoS key, to request communication quality assistance. When the QoS key is turned on, the mobile station transmits a PPP keep alive packet at regular intervals in order to prevent the BSC 105 from releasing the radio channel from the mobile station (Mizutani, paragraph 0046, emphasis added). The mobile station sets the PPP keep alive timer 902 to a value smaller than the value set on the wireless channel state timer 901A. *Ibid.* Because the PPP keep alive timer 902 is set to a value smaller than the wireless channel state timer 901A, the PPP keep alive

timer 902 times out before the timeout of the state transition timer 901B which would cause release of the radio channel from the mobile station and the change of the state of the mobile station from active to dormant (Mizutani, paragraph 0047). Notably, the values of the timers in Mizutani are not variable, and are certainly not variable based on the at least one QoS parameter. The keep alive packet sent when the QoS key is on is sent at regular intervals, and the mobile station sets the keep alive timer 902 to a set value smaller than the value set on the wireless channel state timer so that the radio channel will not be released from the mobile station. Therefore, these values are a set constant and are not variable. As such, Mizutani does not teach “instructing the first mobile terminal to transition from an active mode to a standby mode if another communication session is not necessary prior to expiration of the active-to-standby transition timer for the first mobile terminal, the first value for the active-to-standby transition timer for the first mobile terminal being variable based on the at least one QoS parameter.”

In essence, Mizutani uses the QoS key as a “ping” to override the timer that would cause the mobile station to lose the radio channel. However, the duration, or value, of the timer does not change based on a QoS parameter which has been monitored, as in the present invention. Neither the QoS key nor anything else in Mizutani causes the first value for the active-to-standby transition timer for the first mobile terminal to change, or be variable. In particular, Mizutani discloses nothing that results in “the first value for the active-to-standby transition timer for the first mobile terminal being variable based on the at least one QoS parameter,” as claimed in the present invention. Therefore, Mizutani does not teach each and every limitation of the claim, and cannot anticipate claims 1 and 17.

Dependent claims 2-6, 12, and 13 depend from claim 1, and contain all of the limitations of claim 1, and are thus patentable for at least the same reasons as claim 1. Dependent claims 18-22, 28, and 29 depend from claim 17, and contain all of the limitations of claim 17, and are thus patentable for at least the same reasons as claim 17.

E. Claims 7-9 and 23-25 Are Non-Obvious

Claims 7-9 and 23-25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mizutani (Final Office mailed August 10, 2006, pp. 6-7). Claims 7-9 depend indirectly from claim 1. Claims 23-25 depend indirectly from claim 17. Thus, claims 7-9 and 23-25 contain all of the limitations of claims 1 and 17, respectively. As set forth above, Mizutani fails to teach

each and every limitation of claims 1 and 17. In particular, Mizutani does not teach or suggest “monitoring at least one Quality of Service (QoS) parameter bearing on QoS,” and Mizutani does not teach or suggest “instructing the first mobile terminal to transition from an active mode to a standby mode if another communication session is not necessary prior to expiration of the active-to-standby transition timer for the first mobile terminal, the first value for the active-to-standby transition timer for the first mobile terminal **being variable based on the at least one QoS parameter.**” Thus, claims 7-9 and 23-25 are patentable over Mizutani for the reasons set forth above with respect to claims 1 and 17.

In addition, claims 7 and 23 recite similar additional limitations. Claim 7, for example, depends from claim 6, which in turn depends from claim 5, which depends from claim 1.¹ Claim 5 recites that there is a second mobile terminal which has a second value for its active-to-standby transition timer based on the at least one QoS parameter, with the second value being variable based on the QoS parameter. Claim 6 recites that the first and second values decrease as the at least one QoS parameter changes in a manner adversely affecting QoS. Then claim 7 adds the further limitation of “wherein the first value decreases at a lower rate than the second value as the at least one QoS parameter changes in a manner adversely affecting QoS.” Mizutani does not teach the additional limitation of “wherein the first value decreases at a lower rate than the second value as the at least one QoS parameter changes in a manner adversely affecting QoS,” as required in claims 7 and 23. The Patent Office admits that Mizutani does not teach this element, but alleges that it would have been obvious to a person of ordinary skill in the art “to include a first value that decreases at a lower rate than the second value,” with the motivation being “to provide for two different values decreasing at two different rates.” (Final Office Action mailed August 10, 2006, p. 6).

If the Patent Office must modify a single reference to include a missing claim element, the Patent Office must provide a motivation to modify the reference. Furthermore, the Patent Office must support any such motivation with actual evidence. *In re Kotzab*, 217 F.3d 1365, 1370 (Fed. Cir. 2000). Appellant respectfully submits that the Patent Office has provided no actual evidence to support the stated motivation to modify Mizutani. Moreover, the Patent Office is using circular logic. The Patent Office is asserting that it would be obvious to include

¹ Claim 23 depends from claim 22, which depends from claims 21, which depends from independent claim 17, and adds the same limitation as claim 7, so claim 23 is patentable for the same reasons as claim 7.

two values that decrease at different rates in order to get two different values decreasing at two different rates. In other words, the Patent Office is saying that it would be obvious to include the missing limitation in order to provide the missing limitation. This sort of argument lacks any support or actual evidence. The Patent Office's attempts to modify Mizutani without evidence of a suggestion, teaching, or motivation for the proposed modification simply takes Appellant's disclosure as a blueprint to defeat patentability, which is the essence of impermissible hindsight.² *In re Dembicza*k, 175 F.3d 994, 999 (Fed. Cir. 1999). Thus, the asserted motivation to modify Mizutani is improper, making the obviousness rejection improper. Accordingly, claims 7 and 23 are patentable for this additional reason. Claims 8 and 9 depend from claim 7 and add further limitations. Claims 24 and 25 depend from claim 23 and add further limitations. Thus, claims 8, 9, 24, and 25 are also patentable.

F. Claims 10, 11, 26, and 27 Are Non-Obvious

Claims 10, 11, 26, and 27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mizutani in view of Immonen (Final Office Action mailed August 10, 2006, pp. 7-8). Claims 10 and 11 depend indirectly from claim 1. Claims 26 and 27 depend indirectly from claim 17. Thus, claims 10, 11, 26, and 27 contain all of the limitations of claims 1 and 17, respectively. As set forth above, Mizutani fails to teach each and every limitation of claims 1 and 17. In particular, Mizutani does not teach or suggest “monitoring at least one Quality of Service (QoS) parameter bearing on QoS,” and Mizutani does not teach or suggest “instructing the first mobile terminal to transition from an active mode to a standby mode if another communication session is not necessary prior to expiration of the active-to-standby transition timer for the first mobile terminal, the first value for the active-to-standby transition timer for the first mobile terminal being variable based on the at least one QoS parameter.” Immonen does not cure the deficiencies of Mizutani in this regard. Thus, claims 10, 11, 26, and 27 are patentable over Mizutani for the reasons set forth above with respect to claims 1 and 17.

² Appellant finds it noteworthy that the Patent Office in the first Office Action mailed March 8, 2006 failed to allege that it would be obvious to modify Mizutani to reach the invention of claims 7-9 and 23-25. In fact, the Patent Office indicated that claims 2-13 and 18-29 contained allowable subject matter (Office Action mailed March 8, 2006, p. 4).

G. Conclusion

Mizutani fails to teach at least two elements of independent claims 1 and 17. First, Mizutani fails to disclose “monitoring at least one Quality of Service (QoS) parameter bearing on QoS.” Second, Mizutani fails to teach “instructing the first mobile terminal to transition from an active mode to a standby mode if another communication session is not necessary prior to expiration of the active-to-standby transition timer for the first mobile terminal, the first value for the active-to-standby transition timer for the first mobile terminal being variable based on the at least one QoS parameter.” Therefore, since Mizutani does not teach each and every limitation of the claims, Mizutani does not anticipate claims 1 and 17, nor the claims that depend from claims 1 and 17.

With respect to claim 7-9 and 23-25, these claims are further patentable because Mizutani does not teach or suggest the limitation of “wherein the first value decreases at a lower rate than the second value as the at least one QoS parameter changes in a manner adversely affecting QoS,” as required in claims 7 and 23. The Patent Office attempts to argue that it would be obvious to modify Mizutani to add the missing limitation, but the Patent Office provides no actual evidence to support the stated motivation to modify Mizutani. The Patent Office’s attempts to modify Mizutani without actual evidence to support the stated motivation for the proposed modification simply takes Appellant’s disclosure as a blueprint to defeat patentability, which is the essence of impermissible hindsight.

For the above reasons, Appellant requests that the Board reverse the Examiner and instruct the Examiner to allow claims 1-13 and 17-29.

Respectfully submitted,

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(8) CLAIMS APPENDIX

1. A method for controlling active-to-standby transitions for mobile terminals in a wireless communication environment, the method comprising:
 - a) monitoring at least one Quality of Service (QoS) parameter bearing on QoS;
 - b) determining a first value for an active-to-standby transition timer for a first mobile terminal based on the at least one QoS parameter;
 - c) setting the active-to-standby transition timer for the first mobile terminal with the first value at the end of a data communication session with the first mobile terminal; and
 - d) instructing the first mobile terminal to transition from an active mode to a standby mode if another communication session is not necessary prior to expiration of the active-to-standby transition timer for the first mobile terminal, the first value for the active-to-standby transition timer for the first mobile terminal being variable based on the at least one QoS parameter.
2. The method of claim 1 wherein the first value decreases as the at least one QoS parameter changes in a manner adversely affecting QoS.
3. The method of claim 2 wherein the first value has an initial value and is decreased after the at least one QoS parameter passes a predefined threshold.
4. The method of claim 1 wherein the at least one QoS parameter consists of a number of active mobile terminals, an amount of communication traffic, system overload, time after system overload, and a combination thereof.
5. The method of claim 1 further comprising:
 - a) determining a second value for an active-to-standby transition timer for a second mobile terminal based on the at least one Quality of Service (QoS) parameter;
 - b) setting the active-to-standby transition timer for the second mobile terminal with the second value at the end of a data communication session with the second mobile terminal; and

c) instructing the second mobile terminal to transition from an active mode to a standby mode if another communication session is not necessary prior to expiration of the active-to-standby transition timer for the second mobile terminal, the second value for the active-to-standby transition timer for the second mobile terminal being variable based on the at least one QoS parameter.

6. The method of claim 5 wherein the first and second values decrease as the at least one QoS parameter changes in a manner adversely affecting QoS.

7. The method of claim 6 wherein the first value decreases at a lower rate than the second value as the at least one QoS parameter changes in a manner adversely affecting QoS.

8. The method of claim 7 wherein the first value has a higher initial value than the second value.

9. The method of claim 8 wherein the initial values for the first and second values decrease after the at least one QoS parameter passes a predefined threshold.

10. The method of claim 5 wherein the first mobile terminal is associated with a first QoS level and the second mobile terminal is associated with a second QoS level.

11. The method of claim 10 wherein the first value is applied to active-to-standby transition timers for a plurality of mobile terminals and the second value is applied to active-to-standby transition timers for a plurality of mobile terminals.

12. The method of claim 5 further comprising blocking standby-to-active transitions for mobile terminals in the standby mode based on the at least one QoS parameter.

13. The method of claim 5 further comprising instructing active mobile terminals to transition to the standby mode based on the at least one QoS parameter when no data needs to be communicated in association with the active mobile terminals.

14. A method comprising:

- a) monitoring at least one Quality of Service (QoS) parameter bearing on QoS;
- b) determining a first value for active-to-standby transition timers for active mobile terminals associated with a first QoS level and a second value for active-to-standby transition timers for active mobile terminals associated with a second QoS level, the first and second values based on the at least one QoS parameter;
- c) setting the active-to-standby transition timers for the mobile terminals associated with the first QoS level with the first value and setting the active-to-standby transition timers for the mobile terminals associated with the second QoS level with the second value at the end of a data communication sessions; and
- d) instructing each mobile terminal to transition from an active mode to a standby mode if another communication session is not necessary prior to expiration of the corresponding active-to-standby transition timer.

15. The method of claim 14 wherein the first value decreases at a lower rate than the second value as the at least one QoS parameter changes in a manner adversely affecting QoS.

16. The method of claim 15 wherein the first value has a higher initial value than the second value.

17. An access point comprising:

- a) a wireless communication interface adapted to facilitate wireless communications with mobile terminals; and
- b) a control system associated with the wireless communication interface and adapted to:
 - i) monitor at least one Quality of Service (QoS) parameter bearing on QoS;
 - ii) determine a first value for an active-to-standby transition timer for a first mobile terminal based on the at least one QoS parameter;

- iii) set the active-to-standby transition timer for the first mobile terminal with the first value at the end of a data communication session with the first mobile terminal; and
- iv) instruct the first mobile terminal to transition from an active mode to a standby mode if another communication session is not necessary prior to expiration of the active-to-standby transition timer for the first mobile terminal, the first value for the active-to-standby transition timer for the first mobile terminal being variable based on the at least one QoS parameter.

18. The access point of claim 17 wherein the first value decreases as the at least one QoS parameter changes in a manner adversely affecting QoS.

19. The access point of claim 18 wherein the first value has an initial value and is decreased after the at least one QoS parameter passes a predefined threshold.

20. The access point of claim 17 wherein the at least one QoS parameter consists of a number of active mobile terminals, an amount of communication traffic, system overload, time after system overload, and a combination thereof.

21. The access point of claim 17 wherein the control system is further adapted to:

- a) determine a second value for an active-to-standby transition timer for a second mobile terminal based on the at least one QoS parameter;
- b) set the active-to-standby transition timer for the second mobile terminal with the second value at the end of a data communication session with the second mobile terminal; and
- c) instruct the second mobile terminal to transition from an active mode to a standby mode if another communication session is not necessary prior to expiration of the active-to-standby transition timer for the second mobile terminal, the second value for the active-to-standby transition timer for the second mobile terminal being variable based on the at least one QoS parameter.

22. The access point of claim 21 wherein the first and second values decrease as the at least one QoS parameter changes in a manner adversely affecting QoS.
23. The access point of claim 22 wherein the first value decreases at a lower rate than the second value as the at least one QoS parameter changes in a manner adversely affecting QoS.
24. The access point of claim 23 wherein the first value has a higher initial value than the second value.
25. The access point of claim 24 wherein the initial values for the first and second values decrease after the at least one QoS parameter passes a predefined threshold.
26. The access point of claim 21 wherein the first mobile terminal is associated with a first QoS level and the second mobile terminal is associated with a second QoS level.
27. The access point of claim 26 wherein the first value is applied to active-to-standby transition timers for a plurality of mobile terminals and the second value is applied to active-to-standby transition timers for a plurality of mobile terminals.
28. The access point of claim 21 wherein the control system is further adapted to block standby-to-active transitions for mobile terminals in the standby mode based on the at least one QoS parameter.
29. The access point of claim 21 wherein the control system is further adapted to instruct active mobile terminals to transition to the standby mode based on the at least one QoS parameter when no data needs to be communicated in association with the active mobile terminal.

(9) EVIDENCE APPENDIX

Appellant relies on no evidence, thus this appendix is not applicable.

(10) RELATED PROCEEDINGS APPENDIX

As there are no related proceedings, this appendix is not applicable.